

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

1-16. (Canceled).

17. (Withdrawn) A semiconductor structure produced by the process of claim 1.

18. (Withdrawn) A semiconductor structure produced by the process of claim 2.

19. (Withdrawn) A semiconductor structure produced by the process of claim 6.

20. (Withdrawn) A semiconductor structure produced by the process of claim 10.

21-26. (Canceled).

27. (Withdrawn) A plasma, comprising chlorine atoms and oxygen atoms at a pressure of between about 2 mTorr and about 4 mTorr, wherein said plasma is formed by a decoupled plasma source.

28. (Withdrawn) The plasma of claim 27, wherein said decoupled plasma source has a flux source power of about 800 watts to about 1500 watts and a plasma bias power of about 50 watts to about 150 watts.

29. (Withdrawn) A method of making a plasma, comprising feeding gases comprising chlorine and oxygen to a decoupled plasma source, and wherein the plasma is produced at a pressure of between about 2 mTorr and about 4 mTorr.

30. (Withdrawn) The method of claim 29, wherein chlorine is provided at a flow rate of between about 40 and about 100 sccm, and oxygen is provided at a flow rate of about 4 to about 12 sccm.

31. (Withdrawn) The method of claim 29, wherein said decoupled plasma source has a flux source power of about 800 watts to about 1500 watts and a plasma bias power of about 50 watts to about 150 watts.

32. (Withdrawn) The method of claim 30, wherein said decoupled plasma source has a flux source power of about 800 watts to about 1500 watts and a plasma bias power of about 50 watts to about 150 watts.

33. (Withdrawn) A method of etching, comprising etching with the plasma produced by the process of claim 29.

34. (Withdrawn) A method of etching, comprising etching with the plasma produced by the process of claim 32.

35. (New) A process for making a semiconductor structure comprising:  
depositing a conductive adhesive layer upon a substrate;  
depositing a highly conductive layer upon said conductive adhesive layer;  
etching a portion of said highly conductive layer and a portion of said conductive adhesive layer utilizing a plasma, wherein said plasma comprises an etchant, wherein said etchant comprises one or more of the group consisting of chlorine and oxygen, where said plasma is ionized and sustained by a first RF source, and wherein said plasma is accelerated by a second RF source.

36. (New) The process of Claim 35, wherein said conductive adhesive layer has a thickness of approximately 10 to 500 angstroms.

37. (New) The process of Claim 36, wherein said highly conductive layer and said conductive adhesive layer have a combined thickness of approximately 3000 angstroms or less.

38. (New) The process of Claim 35, wherein:  
  
said conductive adhesive layer comprises polysilicon; and  
  
said highly conductive layer comprises a material selected from the group consisting of tungsten and tungsten silicide.

39. (New) The process of Claim 35, wherein said etching is conducted at a pressure of approximately 2 m Torr to 4 m Torr.

40. (New) The process of Claim 35, wherein a flow rate of said chlorine is approximately 40 to 100 sccm.

41. (New) The process of Claim 35, wherein a flow rate of said oxygen is approximately 4 to 12 sccm.

42. (New) The process of Claim 35, wherein said first RF source is approximately 800 to 1500 watts.

43. (New) The process of Claim 35, wherein said second RF source is approximately 50 to 150 watts.

44. (New) A method of making a semiconductor structure comprising:

depositing a conductive adhesive layer on a substrate;  
depositing a highly conductive layer on said conductive adhesive layer;  
selectively etching a portion of said highly conductive layer and a portion of said conductive adhesive layer utilizing a plasma, wherein said plasma comprises one or more etchants selected from the group consisting of chlorine and oxygen, wherein an ion flux of said plasma is a function of a first power source, and wherein an energy of said plasma is a function of a second power source.

45. (New) The process of Claim 44, wherein said etching is conducted at a pressure of approximately 2 m Torr to 4 m Torr.

46. (New) The process of Claim 45, wherein a flow rate of said chlorine is approximately 40 to 100 sccm.

47. (New) The process of Claim 45, wherein a flow rate of said oxygen is approximately 4 to 12 sccm.

48. (New) The process of Claim 45, wherein said first power source is approximately 800 to 1500 watts.

49. (New) The process of Claim 45, wherein said second power source is approximately 50 to 150 watts.

50. (New) The process of Claim 44, wherein:  
  
said substrate comprises one or more materials selected from the group consisting of silicon oxide, silicon nitride and aluminum oxide.  
  
said conductive adhesive layer comprises polysilicon; and  
  
said highly conductive layer comprises a material selected from the group consisting of tungsten and tungsten silicide.

51. (New) The process of Claim 50, wherein:  
  
said conductive adhesive layer has a thickness of approximately 10 to 100 angstroms; and  
  
said highly conductive layer has a thickness of approximately 1500 to 2500 angstroms.

52. (New) A method of making an electrical interconnect in an electronic device comprising:  
  
depositing a polysilicon layer on an oxide layer;  
  
depositing a highly conductive layer on said polysilicon layer, wherein said conductive layer comprises a material selected from the group consisting of tungsten and tungsten silicide;  
  
selectively etching said highly conductive layer and said polysilicon layer, to form said electrical interconnect on said oxide layer, utilizing a decoupled plasma, wherein said plasma

comprises chlorine gas and oxygen gas, wherein said plasma is ionized and sustained by an RF flux power source, and wherein said plasma is accelerated by an RF bias power source.

53. (New) The process of Claim 52, wherein said selectively etching is conducted at a pressure of approximately 2 m Torr to 4 m Torr.

54. (New) The process of Claim 53, wherein:  
a flow rate of said chlorine gas is approximately 40 to 100 sccm; and  
a flow rate of said oxygen gas is approximately 4 to 12 sccm.

55. (New) The process of Claim 54, wherein:  
said RF flux power source is approximately 800 to 1500 watts; and  
said RF bias power source is approximately 50 to 150 watts.

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Amdt. Dated April 9, 2004  
Reply to Office Action of March 16, 2004

The Commissioner is hereby authorized to charge any additional fees, which may be required for this amendment, or credit any overpayment, to Deposit Account 23-0085. In the event that an extension of time is required, or may be required in addition to that requested in a petition for an extension of time, the Commissioner is requested to grant a petition for that extension of time which is required to make this response timely and is hereby authorized to charge any fee for such an extension of time or credit any overpayment for an extension of time to Deposit Account 23-0085.

Respectfully submitted,

WAGNER, MURABITO & HAO, LLP

A handwritten signature in black ink, appearing to read "Eric J. Gash", written over a horizontal line.

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